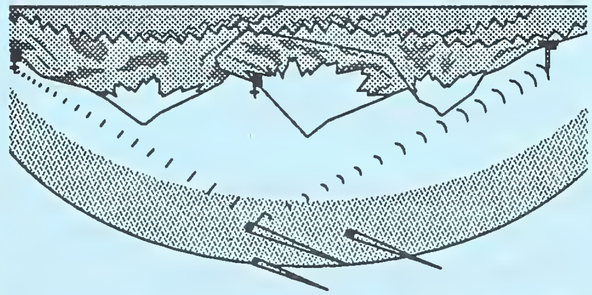
Basin Outlook Reports

May 1, 1992



United States
Department of
Agriculture

Soil
Conservation
Service

3244 Elder Street
Room 124
Boise, ID 83705-4711

In addition to basin outlook reports, a Water Supply Forecast for the Western United States is published by the Soil Conservation Service and National Weather Service monthly, January through May. Reports may be obtained from the Soil Conservation Service, West National Technical Center, 511 Northwest Broadway, Room 248, Portland, OR 97209-3489.

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Basin Outlook Reports
and
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For more water supply and resource management information, contact:

How forecasts are made

Most of the annual streamflow in the Western United States originates as snowfall that has accumulated high in the mountains during winter and early spring. As the snowpack accumulates, hydrologists estimate the runoff that will occur when it melts. Predictions are based on careful measurements of snow water equivalent at selected index points. Precipitation, temperature, soil moisture and antecedent streamflow data are combined with snowpack data to prepare runoff forecasts. Streamflow forecasts are coordinated by Soil Conservation Service and National Weather Service hydrologists. This report presents a comprehensive picture of water supply conditions for areas dependent upon surface runoff. It includes selected streamflow forecasts, summarized snowpack and precipitation data, reservoir storage data, and narratives describing current conditions.

Snowpack data are obtained by using a combination of manual and automated SNOTEL measurement methods. Manual readings of snow depth and water equivalent are taken at locations called snow courses on a monthly or semi-monthly schedule during the winter. In addition, snow water equivalent, precipitation and temperature are monitored on a daily basis and transmitted via meteor burst telemetry to central data collection facilities. Both monthly and daily data are used to project snowmelt runoff.

Forecast uncertainty originates from two sources: (1) uncertainty of future hydrologic and climatic conditions, and (2) error in the forecasting procedure. To express the uncertainty in the most probable forecast, four additional forecasts are provided. The actual streamflow can be expected to exceed the most probable forecast 50% of the time. Similarly, the actual streamflow volume can be expected to exceed the 90% forecast volume 90% of the time. The same is true for the 70%, 30%, and 10% forecasts. Generally, the 90% and 70% forecasts reflect drier than normal hydrologic and climatic conditions; the 30% and 10% forecasts reflect wetter than normal conditions. As the forecast season progresses, a greater portion of the future hydrologic and climatic uncertainty will become known and the additional forecasts will move closer to the most probable forecast.

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BASIN REPORTS:

[ ] **G - General Outlook Report** (mailed to all recipients)

[ ] **#1 - Panhandle Region**

[ ] **#2 - Clearwater River Basin**

[ ] **#3 - Salmon River Basin**

[ ] **#4 - Weiser, Payette, and Boise River Basins**

[ ] **#5 - Wood and Lost River Basins**

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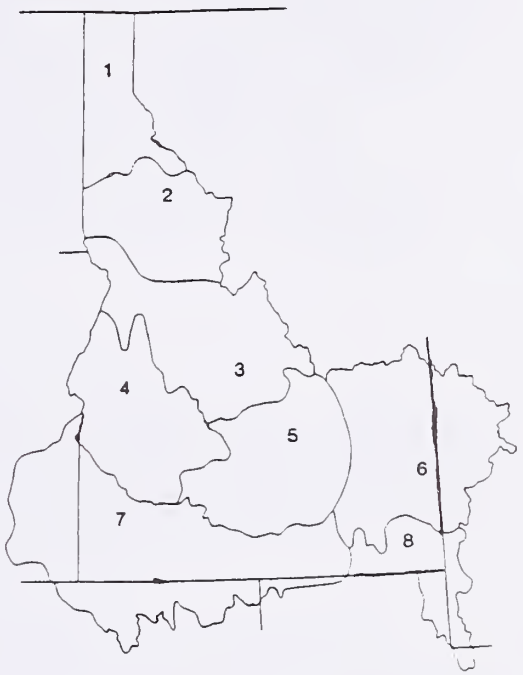

OTHER REPORTS:

[ ] - **Annual Data Summary** (published after each water year, it contains individual snow course measurements, SNOTEL pillow and precipitation readings, and the 1961-90 averages)

[ ] - **Fact Sheet containing the first of month snow data values** (snow pillow readings, last year, and average, and snow course data - snow depth/water content) **mailed around the 5th of each month, January - June**

All the above reports are available on the Centralized Forecast System (CFS) computer in Portland, Oregon. A terminal or computer with communication software, modem and phone line are required.

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- BASIN OUTLOOK REPORT FOR IDAHO -

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IDAHO WATER SUPPLY OUTLOOK REPORT

MAY 1, 1992

SUMMARY

APRIL BROUGHT SOME IMPROVEMENT IN PRECIPITATION TO MOST OF IDAHO, BUT DID LITTLE TO IMPROVE THE WATER SUPPLY OUTLOOK FOR THE COMING SUMMER. ABOVE NORMAL TEMPERATURES DURING LATE APRIL AND EARLY MAY CAUSED SNOWMELT RATES TO SOAR AND RUNOFF TO BEGIN 3-4 WEEKS EARLIER THAN NORMAL. MANY BASINS ACROSS THE SOUTHERN TIER OF THE STATE ARE REPORTING RECORD LOW SNOWPACK READINGS FOR MAY 1 WITH SNOWPACK PERCENTAGES IN THE SINGLE DIGITS AND TEENS. AS A RESULT, STREAMFLOW FORECASTS FOR MANY SOUTHERN IDAHO STREAMS ARE NEAR THE MINIMUM OF RECORD. THE COMBINATION OF EXTREMELY LOW STREAMFLOWS AND VERY LOW RESERVOIRS WILL LEAD TO SEVERE AGRICULTURAL WATER SHORTAGES THIS SUMMER ACROSS MUCH OF SOUTHERN AND CENTRAL IDAHO. THE 1992 WATER YEAR MAY REPLACE 1977 AS THE BENCHMARK LOW SNOWPACK AND WATER SUPPLY YEAR ACROSS MUCH OF THE STATE.

SNOWPACK

Warm temperatures started the snowmelt season 3-4 weeks earlier than normal this year, and caused most of April's precipitation to fall in the form of rain instead of snow. As a result, snowpack percentages have declined dramatically since our last report. North Idaho currently reports snowpacks in the 50-60% of average range, central and eastern Idaho snowpacks are 30-40% of average, and all basins along the southern edge of the state are reporting snowpack percentages between 20% of average and zero (no snow). Many snow measuring stations across the state report water contents that are 15-30 inches below the normal for May 1. Hot weather during the first week of May is melting the remaining snow quite rapidly, with SNOTEL sites reporting melt rates of 1 to 1.5 inches of water content per day. Only the high elevation sites across the state are reporting any snow remaining, and that will not last long if the warm weather continues.

PRECIPITATION

April showers brought much needed precipitation to the higher elevations in the central part of the state, but did little to improve the overall water supply picture. Above normal precipitation fell in the Clearwater, Salmon, and west central mountain basins, while the Panhandle and upper Snake area received near normal amounts. Eastern and southern Idaho received about 80% of the normal April precipitation, while the Bear River area only received 60% of normal precipitation during the month. Temperatures during the month of April were much above normal across the state. Boise reported the second warmest April since 1934, with a departure of 6.3 degrees above normal. The long range forecast from the National Weather Service calls for a continuation of these warm temperatures -- not a good outlook from an irrigation and water supply viewpoint.

RESERVOIRS

Reservoir storage continues to be an area of major concern with respect to irrigation water supplies. Some reservoirs in southern and central Idaho have already reached their peak storage levels for the year as irrigation demands exceed natural inflows. Water users should expect early reservoir drawdowns this year. Many reservoirs are currently holding less than half of usable capacity, including the Boise system, Bear Lake, Oakley, Salmon Falls, Owyhee, Blackfoot, and Magic. On a more positive note, northern Idaho, the Payette basin, and Snake River reservoirs are storing near average amounts and no significant water shortages are expected in these areas. All water users should keep in touch with their local irrigation districts for more specific information.

STREAMFLOW

April streamflows were highly variable across the state, with northern Idaho streams reporting near to above normal flows for the month and most central and southern streams reporting below normal flows. Very warm temperatures during late April and early May produced rises in streamflow throughout the state, and many basins reported their seasonal peak flow during this period. This early runoff, nearly 3-4 weeks ahead of normal, will result in very low flows later this summer. With snowpacks at or near the historic minimums in many areas of Idaho and the upper Snake, some basins are expected to produce historic low seasonal runoff. May-July streamflow forecasts call for less than 60% of average flows throughout the state; some southern Idaho streams may only yield 10-20% of average flows. Water users in southern and central Idaho should be prepared for critically short water supplies this summer, and should keep in touch with their local irrigation districts for more specific information.

RECREATIONAL OUTLOOK

Spring runoff began 3-4 weeks earlier than normal in Idaho due to unusually warm temperatures in late April and early May. Most Idaho streams should peak in early May unless current weather patterns change significantly. In spite of low snowpack conditions, the Lochsa, Selway, Moyie, and St. Joe rivers in northern Idaho should provide excellent high volume whitewater boating in May. In contrast, the southwest desert rivers will have minimal flows this year due to the lack of snowpack. Ample carryover storage in Cascade and Deadwood reservoirs will ensure good lake recreation and should provide excellent flows for Payette river users late into the summer. Reservoir users elsewhere should expect early drawdowns as irrigation demands exceed natural inflows. Snowpacks in the Salmon River basin are melting quickly, but should still provide adequate boating flows for the South Fork, Middle Fork, and Main Salmon Rivers. Floaters on the Middle Fork Salmon should expect to use the downstream Indian Creek launch site somewhat earlier than normal this year due to low streamflows. Low flow conditions offer several benefits to the recreational boater. Rivers are accessible earlier than normal, with a shorter period of potentially hazardous high flows. Rivers are clearer for fishing and warmer for swimming, and expansive beaches offer excellent camping opportunities. In spite of the severe agricultural water shortages expected this summer, most river-based recreation will only be moderately impacted by the low expected streamflows. Reservoir users should plan for early drawdowns of irrigation impoundments.

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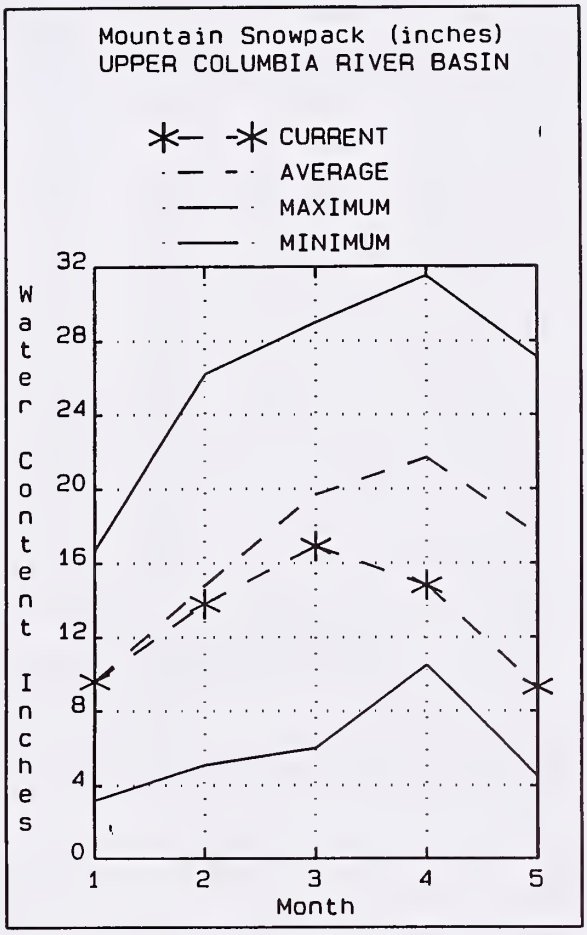
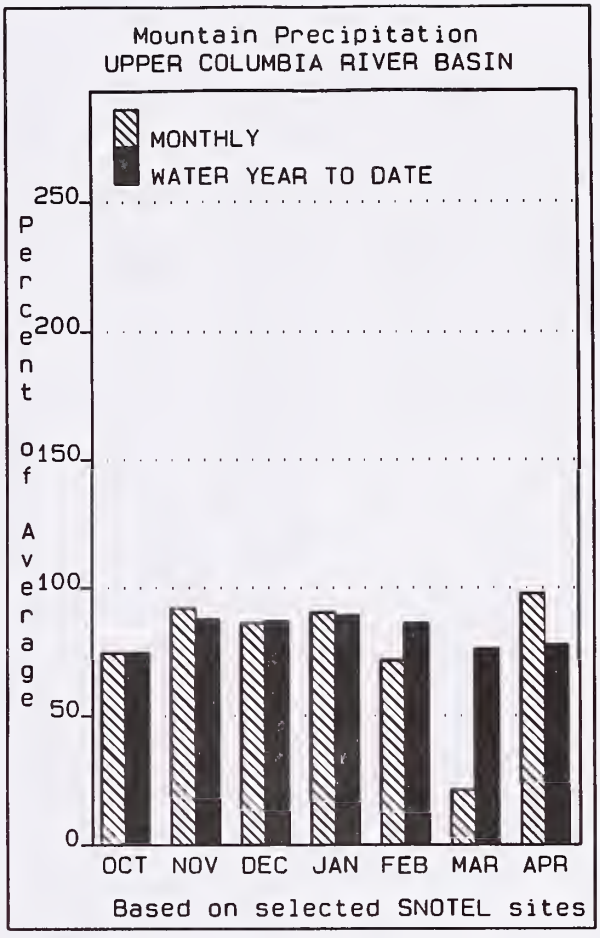
Upper Columbia River Basin

May 1, 1992





WATER SUPPLY OUTLOOK

Mountain precipitation was near normal in the Idaho Panhandle during April -- an improvement over last month -- bringing the water year total to 78% of average. Snowpack percentages in the Panhandle region decreased by 10-30% during April due to warm temperatures and early snowmelt. The snowpack is now about half of normal, except for the low elevation drainages which have already completely melted. SNOTEL sites with snow remaining are reporting snowpacks 15-25 inches below the average May 1 snow water content. As a result, streamflow forecasts have declined from those reported last month and currently call for 50 to 60% of average flows. Reservoir storage in the Panhandle is slightly below average for this time of year. Even with the low snowpack, there are no major water supply problems expected this summer. However, water users should expect earlier than normal peak flows and an early return to baseflow conditions this summer.

UPPER COLUMBIA RIVER BASIN
Streamflow Forecasts - May 1, 1992

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
KOOTENAI at Leonia (1,2)	MAY-SEP	4730	5660	6080	83	6500	7430	7304
	MAY-JUL	4060	4850	5210	84	5570	6360	6223
CLARK FK at Whitehorse Rpds (1,2)	MAY-SEP	4420	5810	6440	58	7070	8460	11200
	MAY-JUL	3920	5160	5730	57	6300	7540	10020
PEND OREILLE LAKE inflow (1,2)	MAY-SEP	4690	6180	6860	56	7540	9030	12290
	MAY-JUL	4180	5520	6130	55	6740	8080	11070
PRIEST nr Priest River (1,2)	MAY-SEP	205	315	365	54	415	525	680
	MAY-JUL	181	290	340	54	390	500	627
COEUR D'ALENE at Enaville (1)	MAY-SEP	86	245	315	62	385	545	512
	MAY-JUL	78	225	290	61	355	500	472
ST. JOE at Calder	MAY-SEP	425	500	550	58	600	675	949
	MAY-JUL	280	465	510	58	555	730	881
SPOKANE nr Post Falls (1,2)	MAY-SEP	440	940	1130	62	1320	1820	1836
	MAY-JUL	495	895	1080	62	1260	1670	1743

UPPER COLUMBIA RIVER BASIN
Reservoir Storage (1000 AF) - End of April

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
HUNGRY HORSE	3451.0	2074.0	1648.0	2043.0
FLATHEAD LAKE	1791.0	873.8	1011.0	937.2
PEND OREILLE	1561.2	862.8	817.2	920.7
NOXON RAPIDS	335.0	272.0	308.9	208.7
COEUR D'ALENE	291.2	227.3	277.2	317.2
PRIEST LAKE	97.7	60.0	75.0	74.4

UPPER COLUMBIA RIVER BASIN
Watershed Snowpack Analysis - May 1, 1992

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Kootenai ab Bonners Ferry	39	45	56
Moyie River	3	39	52
Clark Fork River	56	52	52
Pend Oreille River	84	47	53
Priest River	5	54	53
Rathdrum Creek	1	0	0
Hayden Lake	0	0	0
Coeur d'Alene River	7	40	35
St. Joe River	3	67	70
Spokane River	11	49	46
Palouse River	1	0	0

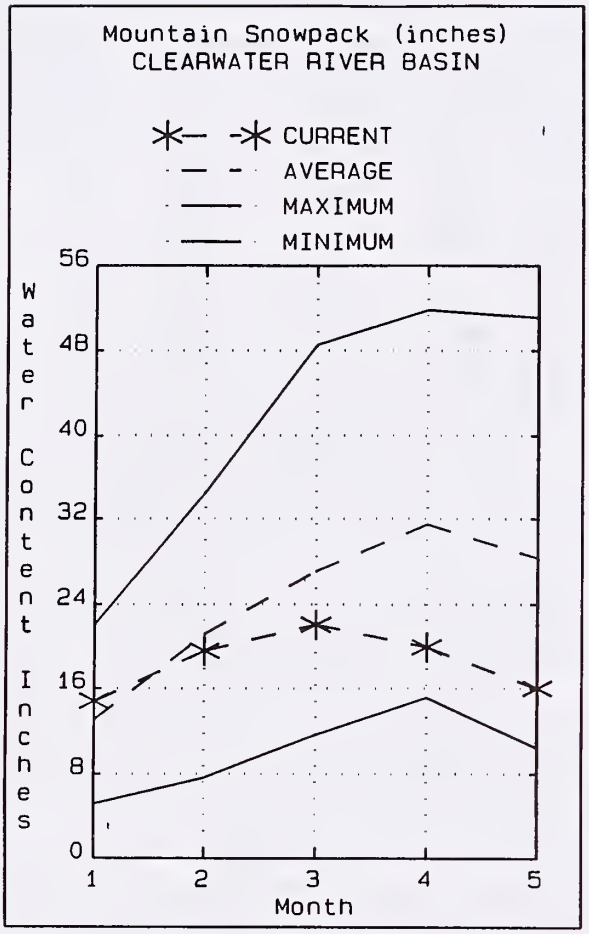
* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

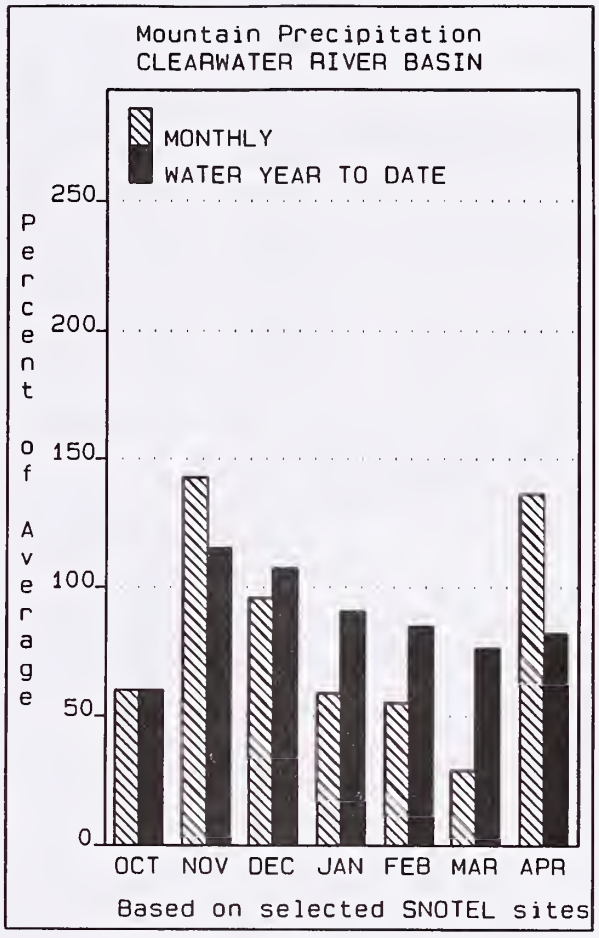
The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

Clearwater River Basin

May 1, 1992





WATER SUPPLY OUTLOOK

The Clearwater basin received 136% of average mountain precipitation during April. Because of the warm temperatures, much of the precipitation fell as rain instead of snow even at the higher elevations. Overall, the Clearwater basin is reporting about the same snowpack as last month, around 60% of normal. SNOTEL sites are reporting snowpacks which are 10-20 inches below their normal May 1 water content. Streamflow forecasts reflect the low snow conditions and call for 48% of average for the inflow to Dworshak Reservoir and only 41% for the Clearwater River at Orofino. Dworshak Reservoir has been operated under a conservative manner and is nearly full. In spite of the low snowpacks, water supplies should be adequate this summer in the Clearwater basin. White water rafting should be excellent on the Lochsa and Selway early this season, but boaters should expect an early recession to low flow conditions.

CLEARWATER RIVER BASIN
Streamflow Forecasts - May 1, 1992

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	50% (Most Probable) (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
DWORSHAK RESERVOIR inflow (1)	MAY-SEP	645	930	1060	48	1190	1480	2212
	MAY-JUL	590	855	975	48	1100	1360	2038
CLEARWATER at Orofino (1)	MAY-SEP	685	1380	1690	41	2000	2690	4089
	MAY-JUL	630	1280	1570	41	1860	2510	3831
CLEARWATER at Spalding (1,2)	MAY-SEP	1510	2450	2880	45	3310	4250	6405
	MAY-JUL	1420	2300	2700	45	3100	3980	5972

CLEARWATER RIVER BASIN
Reservoir Storage (1000 AF) - End of April

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
DWORSHAK	3467.8	3408.0	2900.1	2276.0

CLEARWATER RIVER BASIN
Watershed Snowpack Analysis - May 1, 1992

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
North Fork Clearwater	12	61	62
Lochsa River	4	66	60
Selway River	6	59	54
Clearwater Basin Total	20	61	60

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

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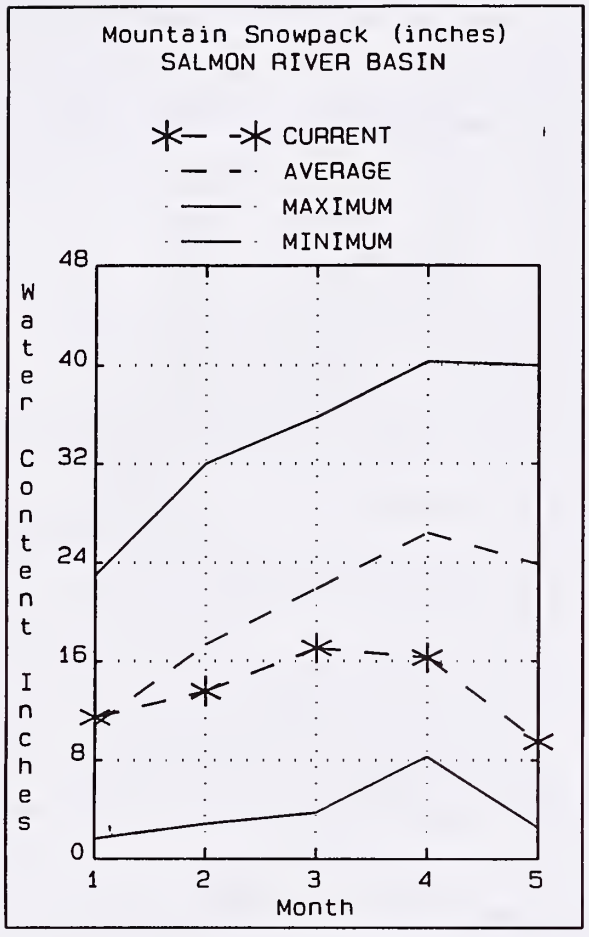
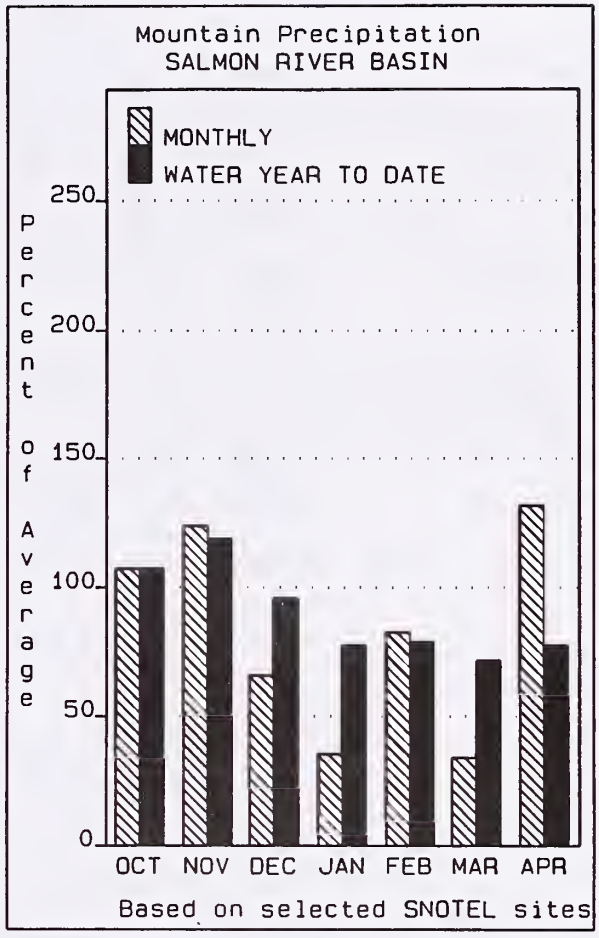
Salmon River Basin

May 1, 1992





WATER SUPPLY OUTLOOK

Above normal temperatures brought April showers instead of snowfall to the Salmon basin. The basin received 132% of average mountain precipitation in April, bringing the water year total to 78% of average. Snowpack percentages remained nearly the same as a month ago on the Lemhi River (67% of average), while other snowpacks decreased about 20%. Low elevation snowpacks have completely melted. Streamflow forecasts call for 58% of average for the May-July period for the Salmon River at Salmon and 51% for the Salmon at Whitebird. Water users on the Salmon River can expect earlier and lower than normal peak flows this year. As a result of the lack of snow in the higher elevations, streams will return to their baseflow conditions earlier than normal this year. Rafting conditions, however, will be adequate for the South Fork, Middle Fork, and Main Salmon rivers. Middle Fork floaters should be prepared to use the Indian Creek launch site earlier than normal this year. Some water shortages may occur for irrigators on small streams later in the year.

SALMON RIVER BASIN
Streamflow Forecasts - May 1, 1992

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
SALMON at Salmon (1)	MAY-SEP	191	425	535	58	645	880	922
	MAY-JUL	162	360	450	58	540	740	772
SALMON at White Bird (1)	MAY-SEP	1820	2690	3080	52	3470	4340	5930
	MAY-JUL	1570	2350	2700	51	3050	3830	5284

SALMON RIVER BASIN
Reservoir Storage (1000 AF) - End of April

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg

SALMON RIVER BASIN
Watershed Snowpack Analysis - May 1, 1992

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Salmon River ab Salmon	8	43	34
Lemhi River	5	74	67
Middle Fork Salmon River	3	58	41
South Fork Salmon River	3	62	44
Little Salmon River	4	10	6
Salmon Basin Total	24	50	39

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

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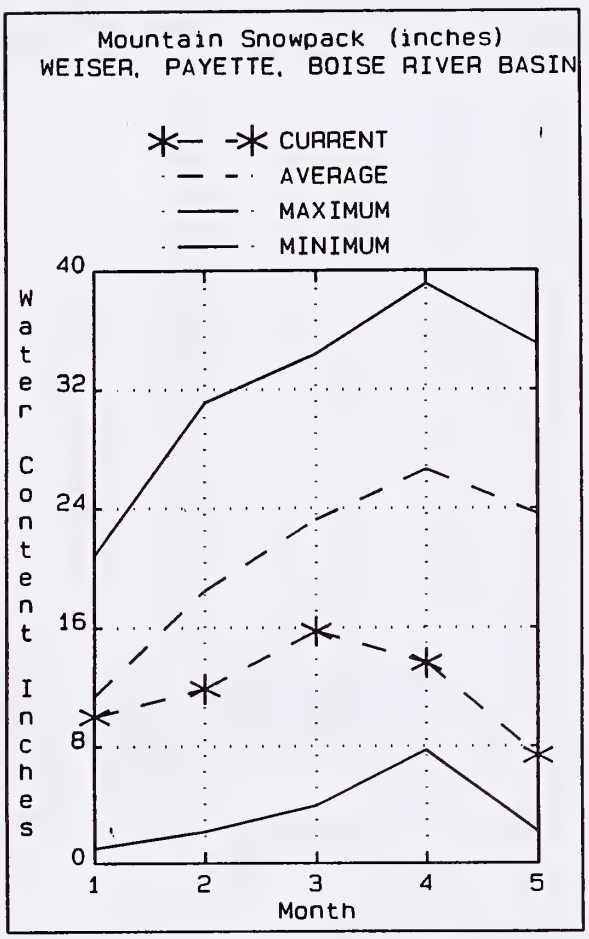
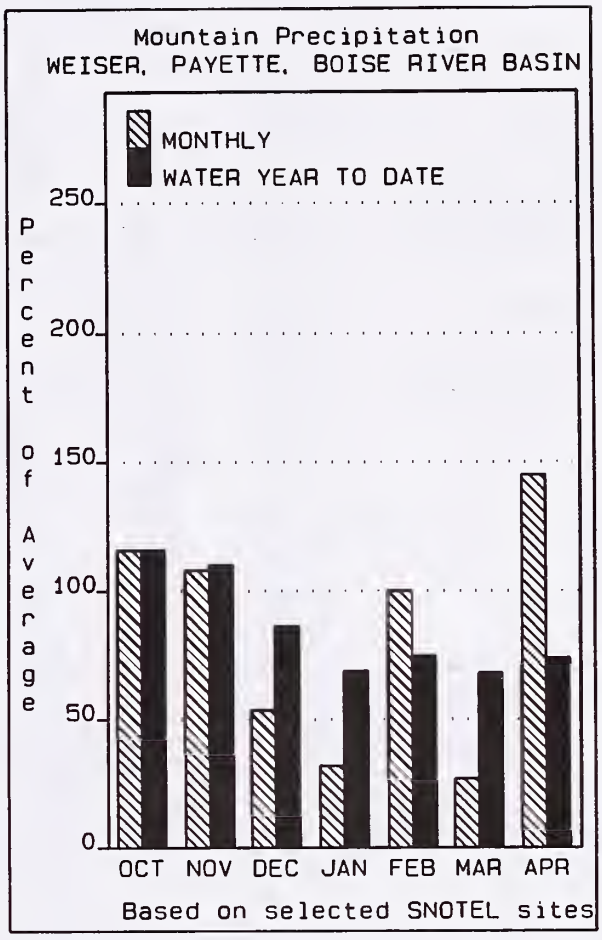
Weiser, Payette, and Boise River Basin

May 1, 1992





WATER SUPPLY OUTLOOK

The water supply picture continues to look bleak for the Boise basin. Even though April mountain precipitation was above average, the warm temperatures caused the precipitation to fall as rain instead of snow in most areas. As a result, nearly all of the snowpack below 6-7000 feet in elevation has melted. The Payette basin snowpack dropped 25% during April to only 27% of average, while the Boise basin dropped to 31% of average for May 1. The forecast for the Boise River near Boise calls for only 21% of average for the May-July period. With reservoir storage at record low levels for the Boise system (41% of capacity), the projected water supply for the Boise valley will be one of the lowest on record. The Weiser basin experienced an early melt season and very little snow remains in the watershed; the streamflow forecast calls for only 25% of the normal May-July volume. Water users should be prepared for CRITICALLY low water supplies this summer and should stay in contact with their local irrigation district for more specific information.

WEISER, PAYETTE, AND BOISE RIVER BASIN
Streamflow Forecasts - May 1, 1992

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter ======>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
WEISER nr Weiser (1)	MAY-JUL	490	585	630	25	675	770	2500
SF PAYETTE at Lowman	MAY-SEP	161	184	200	46	215	240	431
	MAY-JUL	145	166	180	48	194	215	375
DEADWOOD RESERVOIR inflow (1)	MAY-JUL	20	39	48	40	57	76	120
NF PAYETTE at Cascade (1,2)	MAY-SEP	92	156	185	42	215	280	442
	MAY-JUL	89	148	175	43	200	260	407
NF PAYETTE nr Banks (2)	MAY-SEP	107	174	220	40	265	335	554
	MAY-JUL	105	168	210	41	255	315	512
PAYETTE nr Horseshoe Bend (1,2)	MAY-SEP	260	435	540	37	645	935	1442
	MAY-JUL	173	385	480	37	575	785	1304
BOISE nr Twin Springs (1)	MAY-SEP	93	146	170	30	194	245	564
	MAY-JUL	87	137	160	31	183	235	509
SF BOISE at Anderson Rnch Dm (1,2)	MAY-SEP	50	75	110	23	145	225	470
	MAY-JUL	40	73	105	24	137	210	432
BOISE nr Boise (1,2)	MAY-SEP	25	173	240	20	305	455	1204
	MAY-JUL	31	168	230	21	290	430	1090

WEISER, PAYETTE, AND BOISE RIVER BASIN
Reservoir Storage (1000 AF) - End of April

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
MANN CREEK	11.3	9.1	9.4	10.4
CASCADE	703.2	516.7	503.6	411.7
DEADWOOD	162.0	80.5	98.9	101.1
ANDERSON RANCH	464.2	94.2	173.4	327.2
ARROWROCK	286.6	85.5	33.2	214.9
LUCKY PEAK	307.0	255.6	259.7	182.9
LAKE LOWELL (DEER FLAT)	177.0	52.6	123.0	169.8

WEISER, PAYETTE, AND BOISE RIVER BASIN
Watershed Snowpack Analysis - May 1, 1992

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Mann Creek	1	0	0
Weiser River	3	0	0
North Fork Payette	7	29	22
South Fork Payette	4	64	40
Payette Basin Total	12	39	27
Middle & North Fork Boise	7	50	33
South Fork Boise River	6	61	42
Moores Creek	4	4	3
Boise Basin Total	13	46	31
Canyon Creek	0	0	0

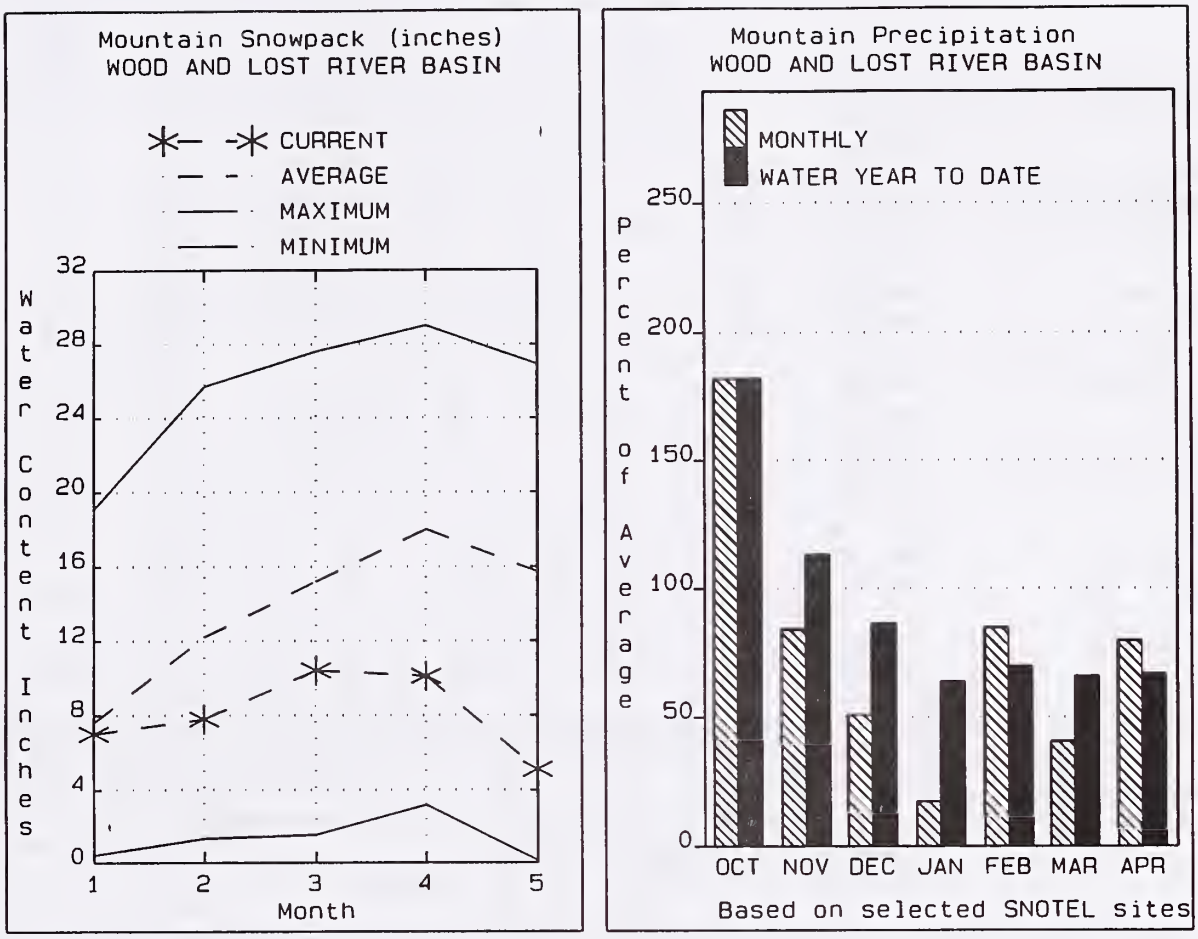
* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

Big Wood, Little Wood, Big Lost, and Little Lost River Basin

May 1, 1992



WATER SUPPLY OUTLOOK

There appears to be no relief in sight for the drought ravaged Wood River basin. April mountain precipitation was 80% of average, bringing the total to only 67% of average for the water year to date -- the same as last year at this time. Warm weather in April caused significant drops in the snowpack percentages from those reported last month. The snowpack now ranges from 27-35% of average for the Wood and Lost River basins, except for Camas Creek where the snow has been melted for some time. The water supply picture in the Wood River valley will be about the same as last year, if not worse. Reservoir levels are similar to last year and the inflow forecast for Magic Reservoir calls for only 10% of average. Reservoir storage in Little Wood and Mackay reservoirs is better at 79 and 70% of capacity, respectively. The Big Lost River is forecast to yield 33% of average flows. Water users should prepare for conditions similar to last year or perhaps even drier because of the lack of spring precipitation.

BIG WOOD, LITTLE WOOD, BIG LOST, AND LITTLE LOST RIVER BASIN
Streamflow Forecasts - May 1, 1992

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
BIG WOOD nr Bellevue	MAY-SEP	1.7	2.8	20	12	37	63	170
	MAY-JUL	1.6	2.5	18.7	12	35	59	156
BIG WOOD bl Magic Dam (2)	MAY-SEP	2.0	11.0	22	10	42	72	216
	MAY-JUL	2.0	10.1	20	10	39	67	202
LITTLE WOOD nr Carey	MAY-SEP	0.7	2.2	7.3	10	13.5	23	73
	MAY-JUL	0.6	1.9	6.0	9	11.6	19.8	65
BIG LOST at Howell Ranch nr Chilly	MAY-SEP	40	57	68	35	79	96	195
	MAY-JUL	34	49	59	35	69	84	169
BIG LOST bl Mackay Reservoir (2)	MAY-SEP	31	46	56	33	66	81	169
	MAY-JUL	21	35	45	33	55	69	137
LITTLE LOST bl Wet Ck	MAY-SEP	9.6	14.7	18.2	52	22	27	35
	MAY-JUL	8.3	11.9	14.3	53	16.7	20	27
LITTLE LOST nr Howe	MAY-SEP	13.5	16.8	19.0	50	21	25	38
	MAY-JUL	10.1	12.1	13.5	50	14.9	16.9	27

WOOD AND LOST RIVER BASIN
Reservoir Storage (1000 AF) - End of April

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
MAGIC	191.5	38.9	32.1	167.7
LITTLE WOOD	30.0	23.8	19.3	24.6
CAREY VALLEY		NO REPORT		
MACKAY	44.5	31.2	28.6	34.2

WOOD AND LOST RIVER BASIN
Watershed Snowpack Analysis - May 1, 1992

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Big Wood ab Magic	7	52	35
Camas Creek	2	0	0
Big Wood Basin Total	9	49	32
Little Wood River	4	33	27
Fish Creek	0	0	0
Big Lost River	6	41	28
Little Lost River	3	37	32

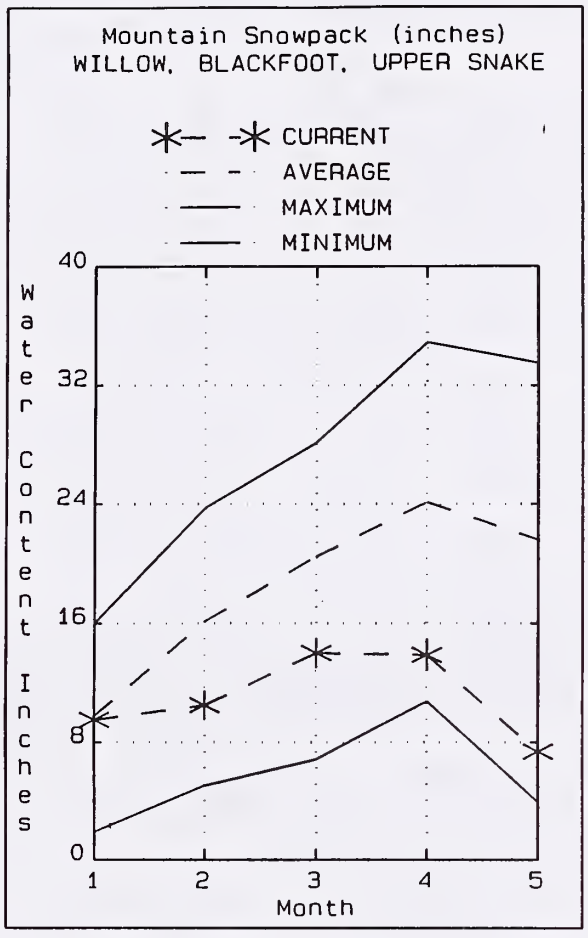
* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

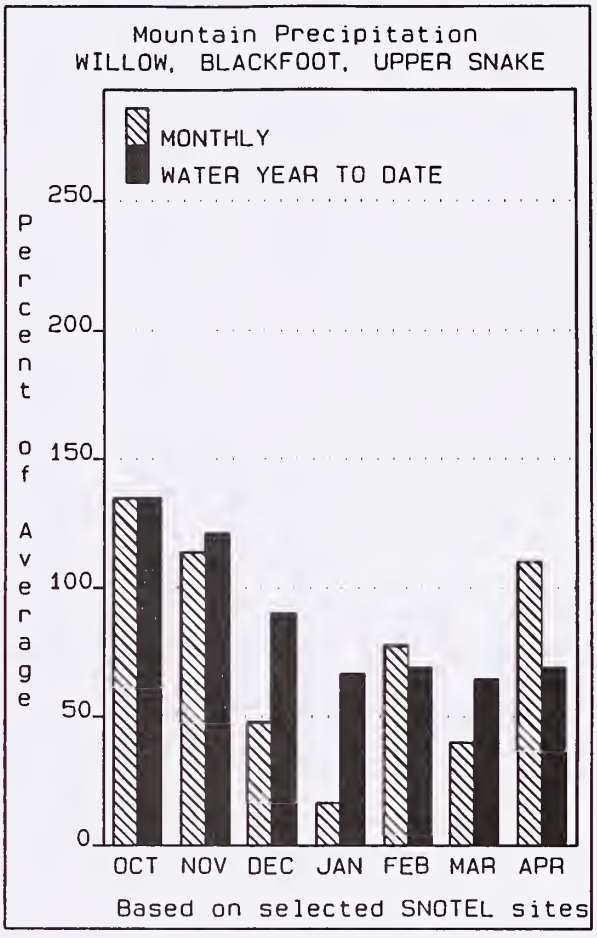
The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

Willow Creek, Blackfoot, Upper Snake, and Portneuf River Basin

May 1, 1992





WATER SUPPLY OUTLOOK

In spite of the precipitation received during April, the warm temperatures and rain have significantly reduced the mountain snowpack in eastern Idaho and western Wyoming. As a result, the snowpack percentages have dropped about 20% from last month and now range from 30-50% of average in the higher elevation basins to zero in most low elevation drainages. With the early runoff this year streamflow forecasts have dropped, calling for much below normal volumes during the remainder of the runoff season. Streamflow forecasts range from 18% to 57% of average for the May-July runoff period, and some streams are expected to yield near their record minimum flows. On the bright side, combined storage in nine key reservoirs on the Snake is 79% of usable capacity. However, with the low streamflows expected, water users should be prepared for a "tight" water supply at best. All water users should stay in contact with their local irrigation district for more specific information.

WILLOW CREEK, BLACKFOOT, UPPER SNAKE, AND PORTNEUF RIVER BASIN
Streamflow Forecasts - May 1, 1992

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
HENRYS FORK nr Ashton (2)	MAY-SEP	300	330	350	57	370	400	618
	MAY-JUL	205	225	240	56	255	275	432
HENRYS FORK nr Rexburg (2)	MAY-SEP	435	565	650	49	735	865	1327
	MAY-JUL	340	435	500	50	565	660	1007
FALLS nr Squirrel (1,2)	APR-JUL	124	163	180	49	198	235	364
TETON ab S Leigh Ck nr Driggs	MAY-SEP	37	60	75	42	90	113	177
	MAY-JUL	23	39	50	38	61	77	130
TETON nr St. Anthony	MAY-SEP	110	138	157	37	176	205	424
	MAY-JUL	78	100	115	35	130	152	332
SNAKE nr Moran (1,2)	APR-SEP	350	420	455	52	490	560	869
PALISADES RESERVOIR inflow (1,2)	APR-SEP	1200	1520	1650	44	1780	2070	3763
SNAKE nr Heise (2)	MAY-SEP	805	1210	1480	40	1750	2160	3672
	MAY-JUL	575	910	1140	37	1370	1710	3074
SNAKE nr Blackfoot (1,2)	MAY-SEP	685	1350	1660	33	1970	2640	5019
	MAY-JUL	565	1100	1340	34	1580	2110	3981
PORTNEUF at Topaz	MAY-SEP	0.4	8.5	14.0	18	19.5	28	76
	MAY-JUL	1.1	5.3	10.0	18	14.7	22	55

WILLOW CREEK, BLACKFOOT, UPPER SNAKE, AND PORTNEUF BASIN
Reservoir Storage (1000 AF) - End of April

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
ISLAND PARK	127.6	132.4	114.6	125.7
GRASSY LAKE	15.2	13.7	13.6	11.5
JACKSON LAKE	824.7	713.4	575.8	494.3
PALISADES	1357.0	1005.7	633.0	871.8
AMERICAN FALLS	1700.0	1270.6	1509.6	1542.9
BROWNLEE	975.3	966.7	970.1	515.9
BLACKFOOT	348.7	124.8	121.8	274.6
HENRYS LAKE	90.4	87.3	88.3	81.8
RIRIE	96.5	55.0	58.2	63.5

WILLOW CREEK, BLACKFOOT, UPPER SNAKE, AND PORTNEUF BASIN
Watershed Snowpack Analysis - May 1, 1992

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Camas-Beaver Creeks	2	3	2
Henrys Fork River	9	48	41
Teton River	8	39	38
Snake above Jackson Lake	5	37	36
Pacific Creek	2	48	52
Gros Ventre River	4	33	33
Hoback River	6	24	21
Greys River	5	48	41
Salt River	5	23	21
Snake above Palisades	25	35	32
Willow Creek	5	7	9
Blackfoot River	2	0	0
Portneuf River	2	0	0
Toponce Creek	0	0	0
Snake abv American Falls	33	30	28

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
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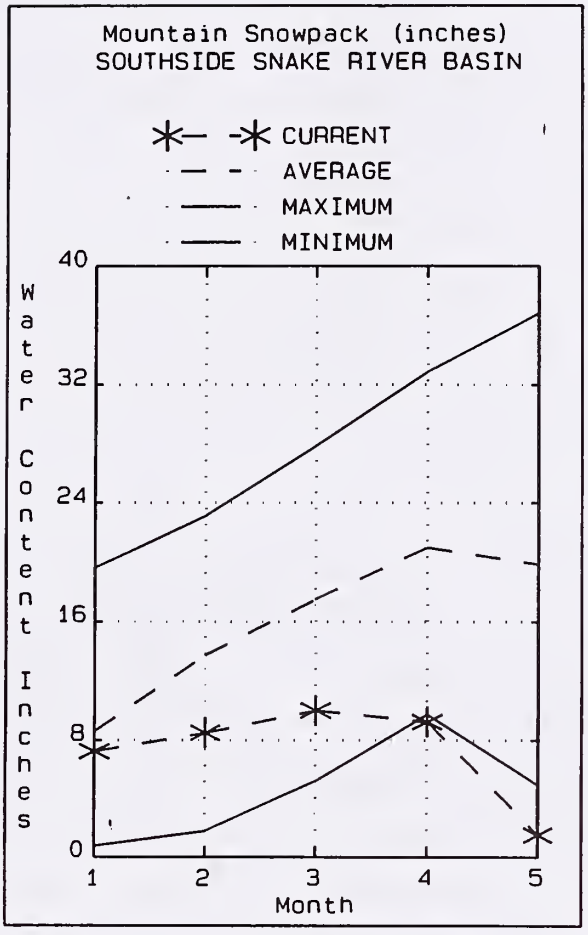
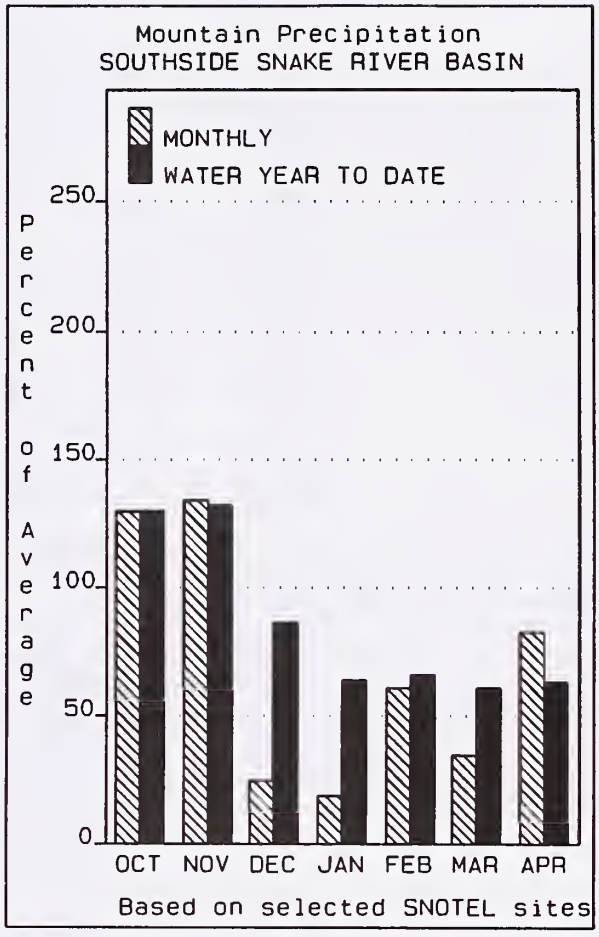
Southside Snake River Basin

May 1, 1992





WATER SUPPLY OUTLOOK

The story remains the same along the southside of the Snake River: dry and warm. Nearly all the snow has melted except on the highest peaks. Last year at this time snowpack conditions were much better due to the cool and wet spring. Mountain precipitation for April was once again below normal at 83% of average and stands at only 63% of average for the water year to date. Reservoir storage is less than 21% of capacity for Oakley, Salmon Falls, and Owyhee Reservoirs. May-July streamflow forecasts call for only 24% of average for Salmon Falls Creek and 7% of average for the inflow to Owyhee Reservoir. The Bruneau River reached its peak snowmelt flow on May 1 of 400 cfs. Because of the extremely dry conditions, some land use restrictions are being implemented this summer in certain areas south of the Snake River. Water users and other public land users should contact the appropriate agency for more specific information.

SOUTHSIDE SNAKE RIVER BASIN
Streamflow Forecasts - May 1, 1992

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ====== Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
OAKLEY RESERVOIR inflow	MAY-SEP	0.2	1.8	6.2	26	10.6	17.2	24
	MAY-JUL	0.2	1.3	5.5	26	9.7	15.8	21
SALMON FALLS CK nr San Jacinto	MAY-SEP	0.6	1.4	14.9	24	28	48	62
	MAY-JUL	0.6	0.9	13.7	24	27	45	57
BRUNEAU nr Hot Spring	MAY-SEP	2.0	22	42	24	63	93	173
	MAY-JUL	2.0	20	39	24	58	86	162
OWYHEE nr Gold Ck (2)	MAY-JUL	0.2	0.8	2.5	15	6.2	11.6	16.7
OWYHEE nr Owyhee (2)	MAY-JUL	0.6	2.3	7.5	13	18.0	33	58
OWYHEE nr Rome	MAY-JUL	6.0	22	14.0	7	54	114	200
OWYHEE RESERVOIR inflow (1,2)	MAY-SEP	7.1	16.7	16.7	7	59	153	238
	MAY-JUL	2.1	14.3	14.3	7	55	126	210

SOUTHSIDE SNAKE RIVER BASIN
Reservoir Storage (1000 AF) - End of April

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
OAKLEY	77.4	13.3	16.0	39.2
SALMON FALLS	182.6	25.5	29.2	81.4
OWYHEE	715.0	147.9	280.5	619.0

SOUTHSIDE SNAKE RIVER BASIN
Watershed Snowpack Analysis - May 1, 1992

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Raft River	1	0	0
Goose-Trapper Creeks	2	0	0
Salmon Falls Creek	5	18	18
Bruneau River	5	20	21
Owyhee Basin Total	7	0	0

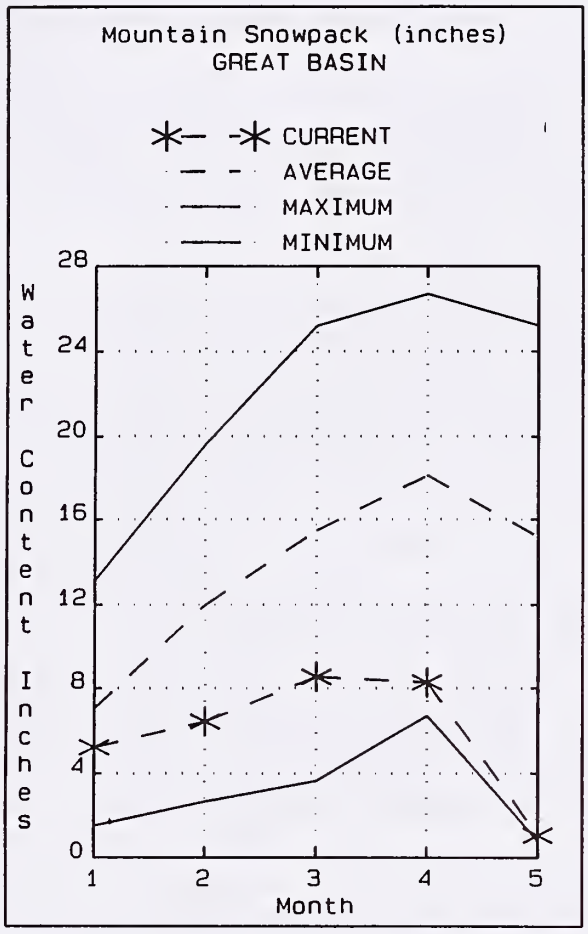
* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

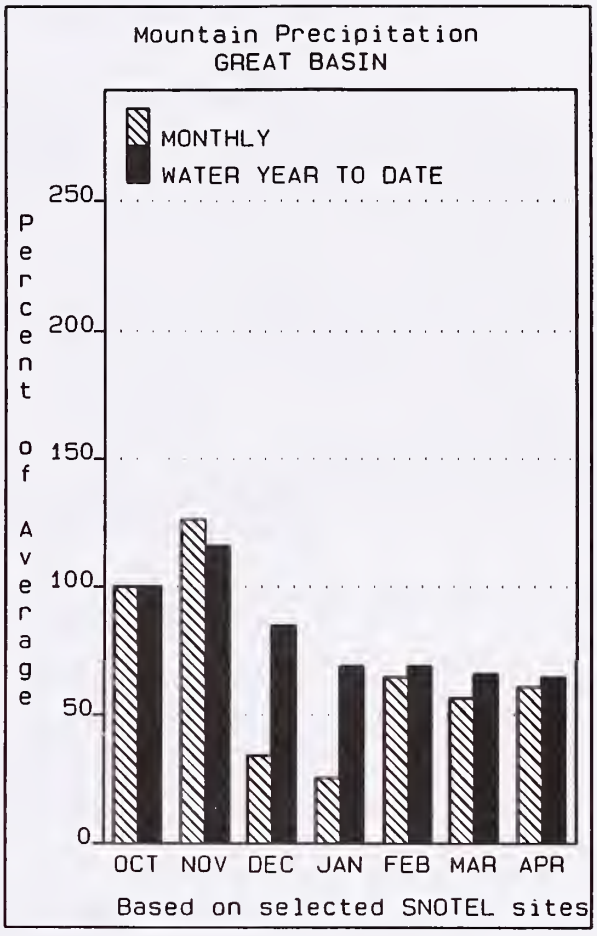
The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

Great Basin

May 1, 1992





WATER SUPPLY OUTLOOK

Warm temperatures and lack of precipitation tell the story this year for southeastern Idaho. Mountain precipitation during April was 61% of average and is only 65% of average for the water year. Snowpack percentages took a nose dive during April and dropped by 35% during the month. Snowpacks currently range from a high of 19% of average for the Bear River above Harer to no snow in the Malad basin. Over half of the 15 SNOTEL sites in the Bear River basin were melted out by May first. Streamflow forecasts look bleak and range from 23% of average for Montpelier Creek to 34% for the Bear River. Reservoir storage for Bear Lake and Montpelier Creek are 37 and 58% of capacity, respectively. Water users in the area should be prepared for critically short water supplies and should contact their local irrigation district for more specific information.

GREAT BASIN

Streamflow Forecasts - May 1, 1992

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
BEAR RIVER near Harer	APR-SEP	10.0	48	110	32	172	265	345
MONTPELIER CK nr Montpelier	MAY-SEP	0.1	0.9	2.6	23	4.6	7.6	11.3
CUB RIVER nr Preston	MAY-SEP	1.5	7.1	16.8	33	27	41	51
	MAY-JUL	1.4	7.2	16.0	35	25	38	46

GREAT BASIN

Reservoir Storage (1000 AF) - End of April

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
BEAR LAKE	1421.0	520.0	530.3	1059.0
MONTPELIER CREEK	4.0	2.3	1.4	2.3

GREAT BASIN

Watershed Snowpack Analysis - May 1, 1992

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Bear River (above Harer)	10	21	19
Montpelier Creek	3	14	10
Mink Creek	1	8	6
Cub River	2	8	8
Malad River	1	0	0

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

Interpreting Streamflow Forecasts

Introduction

Each month, five forecasts are issued for each forecast point and each forecast period. Unless otherwise specified, all streamflow forecasts are for streamflow volumes that would occur naturally without any upstream influences. Water users need to know what the different forecasts represent if they are to use the information correctly when making operational decisions. The following is an explanation of each of the forecasts.

Most Probable (50 Percent Chance of Exceeding) Forecast. This forecast is the best estimate of streamflow volume that can be produced given current conditions and based on the outcome of similar past situations. There is a 50 percent chance that the streamflow volume will exceed this forecast value. There is a 50 percent chance that the streamflow volume will be less than this forecast value.

The most probable forecast will rarely be exactly right, due to errors resulting from future weather conditions and the forecast equation itself. This does not mean that users should not use the most probable forecast; it means that they need to evaluate existing circumstances and determine the amount of risk they are willing to take by accepting this forecast value.

To Decrease the Chance of Having Too Little Water

If users want to make sure there is enough water available for their operations, they might determine that a 50 percent chance of the streamflow volume being lower than the most probable forecast is too much risk to take. To reduce the risk of not having enough water available during the forecast period, users can base their operational decisions on one of the forecasts with a greater chance of being exceeded (or possibly some point in-between). These include:

70 Percent Chance of Exceeding Forecast. There is a 70 percent chance that the streamflow volume will exceed this forecast value. There is a 30 percent chance the streamflow volume will be less than this forecast value.

90 Percent Chance of Exceeding Forecast. There is a 90 percent chance that the streamflow volume will exceed this forecast value. There is a 10 percent chance the streamflow volume will be less than this forecast value.

To Decrease the Chance of Having Too Much Water

If users want to make sure they don't have too much water, they might determine that a 50 percent chance of the streamflow being higher than the most probable forecast is too much of a risk to take. To reduce the risk of having too much water available during the forecast period, users can base their operational decisions on one of the forecasts with a smaller chance of being exceeded. These include:

30 Percent Chance of Exceeding Forecast. There is a 30 percent chance that the streamflow volume will exceed this forecast value. There is a 70 percent chance the streamflow volume will be less than this forecast value.

10 Percent Chance of Exceeding Forecast. There is a 10 percent chance that the streamflow volume will exceed this forecast value. There is a 90 percent chance the streamflow volume will be less than this forecast value.

Using the forecasts—an example

Using the Most Probable Forecast. Using the example forecasts shown below, users can reasonably expect 36,000 acre-feet to flow past the gaging station on the Mary's River near Deeth between March 1 and July 31.

Using the Higher Exceedance Forecasts. If users anticipate a somewhat drier trend in the future (monthly and seasonal weather outlooks are available from the National Weather Service every two weeks), or if they are operating at a level where an unexpected shortage of water could cause problems, they might want to plan on receiving only 20,000 acre-feet (from the 70 percent chance of exceeding forecast). In seven out of ten years with similar conditions, streamflow volumes will exceed the 20,000 acre-foot forecast.

If users anticipate extremely dry conditions for the remainder of the season, or if they determine the risk of using the 70 percent chance of exceeding forecast is too great, then they might plan on receiving only 5000 acre-feet (from the 90 percent chance of exceeding forecast). Nine out of ten years with similar conditions, streamflow volumes will exceed the 5000 acre-foot forecast.

Using the Lower Exceedance Forecasts. If users expect wetter future conditions, or if the chance that five out of every ten years with similar conditions would produce streamflow volumes greater than 36,000 acre-feet was more than they would like to risk, they might plan on receiving 52,000 acre-feet (from the 30 percent chance of exceeding forecast) to minimize potential flooding problems. Three out of ten years with similar conditions, streamflows will exceed the 52,000 acre-foot forecast.

In years when users expect extremely wet conditions for the remainder of the season and the threat of severe flooding and downstream damage exists, they might choose to use the 76,000 acre-foot (10 percent chance of exceeding) forecast for their water management operations. Streamflow volumes will exceed this level only one year out of ten.

UPPER HUMBOLDT RIVER BASIN

STREAMFLOW FORECASTS

FORECAST POINT	FORECAST PERIOD	<------DRIER-------- FUTURE CONDITIONS -----WETTER------> Chance of Exceeding 90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	50% (Most Probable) (% AVG.)	30% (1000AF)	10% (1000AF)	25 YR. (1000AF)
MARY'S RIVER nr Deeth	MAR-JUL	5.0	20.0	36	77	52	76	47
	APR-JUL	8.0	17.0	31	74	45	67	42
LAMOILLE CREEK nr Lamoille	MAR-JUL	6.0	16.0	24	79	32	43	31
	APR-JUL	4.0	15.0	22	75	30	41	30
NF HUMBOLDT RIVER at Devils Gate	MAR-JUL	6.0	12.0	43	73	74	121	59

For more information concerning streamflow forecasting ask your local SCS field office for a copy of "A Field Office Guide for Interpreting Steamflow Forecasts".